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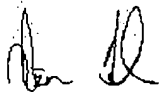
31. The navigation system of claim 19 wherein said display can be configured to display at least one navigational parameter selected from the group consisting of:

- (a) the track of the navigation system;
- (b) the heading of the navigation system;
- (c) the velocity of the navigation system;
- (d) the acceleration of the navigation system;
- (e) the pitch and roll of the navigation system; and
- (f) the position of the navigation system.

Remarks:

Claims 1,3,5,19,20,22 and 31 are herein amended

Respectfully submitted,



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1 1. (Amended) A navigation system, comprising:

2 (a) a GPS receiver adapted to receive electromagnetic signals from a plurality of
3 satellites, said GPS having a first output for providing a signal indicative of the
4 position of [said GPS receiver] the navigational system;

5 (b) a magnetometer positionable for measuring one or more components of the
6 earth's magnetic field, said magnetometer having a second output for providing a
7 signal indicative thereof;

8 (c) an [accelerometer] acceleration sensor for measuring one or more [axes] axis
9 of acceleration of the navigational system, said [accelerometer] acceleration sensor
10 having a third output for providing a signal indicative thereof; [a]

11 (d) a [3-axes rate gyroscopes] rotation sensor for measuring [the rate] one or more
12 axis of rotation of the navigational system, said [rate gyroscope] rotation sensor
13 having a fourth output for providing a signal indicative thereof; and

14 (e) a computing device having:

15 (ii) a plurality of inputs, at least one input of said plurality of inputs in
16 communication with each of said first, second, third, and fourth
17 outputs; and

18 (ii) a database of the magnetic fields of the earth.

1 3. (Amended) The navigation system of claim 1 wherein said rotation sensor [3-axes rate
2 gyroscope] is a MEMS based [rate] gyroscope.

1 5. (Amended) The navigation system of claim 1 [further comprising an aural transducer
2 for communicating audible information from said computing device] wherein said
3 acceleration sensor is a MEMS based accelerometer.

1 19. (Amended) A navigation system, comprising:

2 a Global Positioning Sensor receiver adapted to receive electromagnetic
3 signals from a plurality of satellites to determine a position, said Global Positioning
4 Sensor receiver having a first output for providing a signal indicative said position;

5 an accelerometer for measuring one or more independent components of
6 acceleration, said accelerometer having a second output for providing a signal
7 indicative of said one or more independent components of acceleration;

8 a [rate] gyroscope for measuring three independent components [of rate] of
9 rotation, said rate gyroscope having a third output for providing a signal indicative
10 of said three independent components of rate of rotation;

11 a display for visually displaying navigation information to an operator.

12 a computing device having a plurality of inputs for in communication with
13 said first, second, and third outputs; and

14 a housing wherein is housed said Global Positioning Sensor receiver, said
15 accelerometer, and said rate gyroscope, wherein said housing is configured such
16 that the navigation system is portable.

1 20. The navigation system of claim 19 wherein said [rate] gyroscope[s] [are] is MEMS
2 based.

1 22. The navigation system of claim 19 [further comprising a display for visually displaying
2 navigation information to an operator] wherein said accelerometer is MEMS based.

1 31. The navigation system of claim [22] 19 wherein said display can be configured to
2 display at least one navigational parameter selected from the group consisting of:

3 (a) the track of [a vehicle] the navigation system;

4 (b) the heading of the [vehicle] navigation system;

5 (c) the velocity of the [vehicle] navigation system;

6 (d) the acceleration of the [vehicle] navigation system;

7 (e) the pitch and roll of the [vehicle] navigation system; and

8 (f) [the braking status] the position of the [vehicle] navigation system.